

Appl. N . 09/289,208
Amdt. Dated: August 27, 2003
Reply to Office Action of July 2, 2003

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A protective fabric substrate for protection against puncture, penetration and/or ballistics comprising:

a plurality of warp yarns densely interwoven with a plurality of fill yarns; wherein the denier of the fill yarn is equal or greater than the denier of the warp yarn, at least one of said warp and fill yarns comprise staple fiber, and at least one of warp and fill directions has greater than 70 ends per inch.

2. (Canceled)

3. (Previously presented) The protective fabric substrate as claimed in claim 1 wherein the denier of the fill yarn is at least 1.5 times greater than the denier of the warp yarn.

4. (Previously presented) The protective fabric substrate as claimed in claim 1 said staple fibers comprising stretch broken fibers.

5. (Canceled)

6. (Currently amended) A protective fabric substrate for protection against puncture, penetration and/or ballistics comprising:

a plurality of warp yarns densely interwoven with a plurality of fill yarns; wherein a warp crimp is greater than a fill crimp; and wherein a denier of the fill yarn is equal or greater than the denier of the warp yarn, at least one of said warp and fill yarns comprise staple fiber, and at least one of warp and fill directions has greater than 70 ends per inch.

7. (Original) The protective fabric substrate as claimed in claim 6 wherein the warp crimp is at least five times greater than the fill crimp.

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8. (Original) The protective fabric substrate as claimed in claim 6 wherein the fill yarn denier is at least 1.5 times greater than the warp yarn denier.

9. (Canceled)

10. (Original) The protective fabric substrate of claim 1 wherein the warp yarns per inch is greater than the fill yarns per inch.

11. (Original) The protective fabric substrate of claim 10 wherein the warp yarns per inch is at least 1.5 times the fill yarns per inch.

12. (Original) The protective fabric substrate of claim 6 wherein the warp yarns per inch is greater than the fill yarns per inch.

13. (Original) The protective fabric substrate of claim 12 wherein the warp yarns per inch is at least 1.5 times the fill yarns per inch.

14. (Original) The protective fabric substrate as claimed in claim 1 further including a repeatedly interrupted coating of epoxy resin material providing flexure points to the fabric substrate at the areas of interruption.

15. (Original) The protective fabric substrate as claimed in claim 6 further including a repeatedly interrupted coating of epoxy resin material providing flexure points to the fabric substrate at the areas of interruption.

16. (Withdrawn) A method for making a protective fabric substrate comprising the steps:
providing a fabric substrate suitable for coating with an epoxy resin, said fabric comprising a plurality of warp yarns densely interwoven with a plurality of fill yarns wherein the denier of the fill yarn is greater than the denier of the warp yarn, at least one of said warp and fill

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yarns comprise staple fiber, and at least one of warp and fill directions has greater than 70 ends per inch,

applying a resist material on the fabric substrate in a pattern of streets dividing the surface of the substrate into islands,

coating the fabric substrate with epoxy resin, and
removing the resist material.

17. (Original) The protective fabric substrate of claim 1, said yarns comprising fiber with tenacity greater than 10 grams per denier.

18. (Original) The protective fabric substrate of claim 17, said yarns comprising fiber with tenacity greater than 15 grams per denier.

19. (Original) The protective fabric substrate of claim 1, said staple fiber comprising staple filaments of denier less than 1.5.

20. (Original) The protective fabric substrate of claim 1, said staple fiber comprising filament lengths of about 1.5 inches.

21. (Original) The protective fabric substrate of claim 1, said staple fiber comprising filament lengths of greater than 1.5 inches.

22. (Original) The protective fabric substrate of claim 1, said yarn comprising staple yarn of at least 100 denier.